

Claims:

1. A buffer device for a welding wire, wherein a wire buffer, in particular a wire buffer storage, is arranged between a wire feeder provided on the welding apparatus, or an external wire feeding means, and a further wire feeder preferably arranged in the region of a welding torch, or within the welding torch, and the welding wire is conducted between the two wire feeders within a wire core, characterized in that the wire buffer storage (35) is designed in a manner that the wire core (30) is fastened or fixed on one end, with its other end being freely movable, and that the wire core (30) together with the welding wire (13), at least over a partial region, is arranged to be freely movable within a wire guide hose (38) having a substantially larger cross section (39) or inner diameter than the cross section or outer diameter (33) of the wire core (30), and that the storage volume of the wire buffer storage (35) is defined by the cross section (39) and length of the substantially larger wire guide hose (38).

2. A buffer device according to claim 1, characterized in that the wire core (30) is fastened or fixed in the region of the welding apparatus (1) or external wire feeding means (11).

3. A buffer device according to claim 1 or 2, characterized in that the inner diameter or cross section (39) of the wire guide hose (38) is at least 1.5 times larger than an outer diameter (33) of the wire core (30).

4. A buffer device according to one or several of the preceding claims, characterized in that the wire guide hose (38) is arranged within a hose package (23).

5. A buffer device according to one or several of the preceding claims, characterized in that the wire guide hose (38) extends in a helix-shaped or spiral-shaped manner within said hose package (23).

6. A buffer device according to claim 5, characterized in that further lines arranged within the hose package (23) are arranged

within the helically or spirally extending wire guide hose (38).

7. A buffer device according to one or several of claims 1 to 3, characterized in that the wire guide hose (38) is arranged outside a hose package (23).

8. A buffer device according to claim 7, characterized in that the wire guide hose (38) is arranged around the hose package (23) in a helix-shaped or spiral-shaped manner.

9. A buffer device according to claim 7, characterized in that the wire guide hose (38) is arranged to helically or spirally extend about a carrier material independently of the hose package (23).

10. A buffer device according to one or several of the preceding claims, characterized in that means for detecting the filling level or quantity of welding wire (13) of the wire buffer storage (35) are arranged, said detection means detecting the longitudinal movement of the wire core (30) and, in particular, the free end of the wire core (30).

11. A buffer device according to one or several of the preceding claims, characterized in that the wire buffer storage (35) is comprised of a structural unit comprising the wire guide hose (38), on which a terminal element, particularly a quick lock (49, 50) is arranged on either end, and the wire core (30).

12. A buffer device according to one or several of the preceding claims, characterized in that the wire buffer storage (35) is exchangeable without requiring any tool.

13. A buffer device according to claim 11 or 12, characterized in that a guide element (57) of the terminal element, particularly quick lock (49, 50) projects into a sensor (51) for detecting the longitudinal movement of the wire core (30).

14. A buffer device according to one or several of the preceding claims, characterized in that the wire guide hose (38) is preformed in a helix-shaped or spiral-shaped manner.

15. A welding plant including a welding apparatus, a hose package and a welding torch, wherein the hose package connects the welding torch with the welding apparatus, and a device designed as a wire buffer storage and arranged between two wire feeders, characterized in that said device or wire buffer storage (35) is formed in or around the hose package (23).

16. A welding plant according to claim 15, characterized in that said device or wire buffer storage (35) is designed according to one or several of claims 1 to 14.